



AMERICAN RADIO RELAY LEAGUE  
NATIONAL CONVENTION

*September 4th, 5th, 6th, 1948*

MILWAUKEE AUDITORIUM

SPONSORED BY  
MILWAUKEE RADIO AMATEURS' CLUB, INC.

NATIONAL  
A. R. R. L.  
Convention

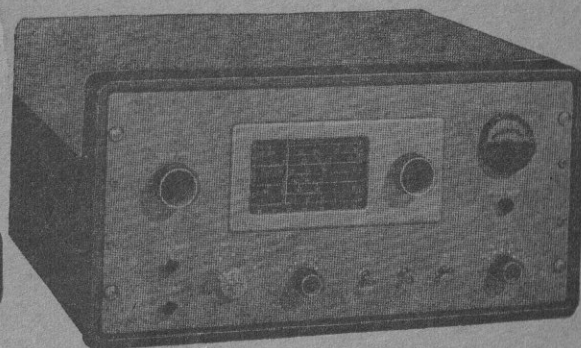
COMMITTEE

SEPT. 4-5-6  
1948

# New... Modern... Complete!

## HT-19

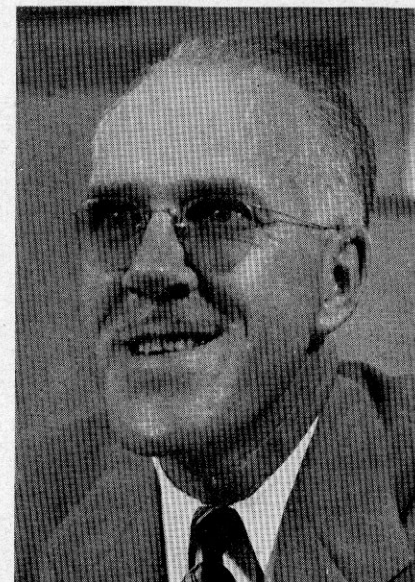
Transmitter



Self Contained Medium Power  
NBFM or CW. Provisions for AM

**SEE ON DISPLAY**  
at our booth

# hallicrafters



C. C. RICHELIEU, W9ARE, Director, Central Division

My dear fellow Radio Amateurs:

This is indeed a proud day for the Central Division of the American Radio Relay League. The Milwaukee radio amateurs, your Director, and all amateurs of this Division are deeply honored by the presence of outstanding amateur and professional radiomen from throughout this and other lands here today. You have come to Milwaukee we know because of your ardent enthusiasm for our great public service hobby and your desire to meet your ham friends on a common ground of congeniality and good fellowship. We know this mission will be served and wish for you and yours, every possible pleasure while you are our guests. We hope you will avail yourself of every opportunity to learn more about your hobby and the people who represent you in official circles. Let this National Convention symbolize to you the place you occupy in the modern Science of Electronics. Remember, the destiny of this Nation is linked directly with young scientists, experimenters, and engineers. Yours is a boundless future. Make the most of it . . . and, Godspeed.

## *The Milwaukee Radio Amateurs' Club, Inc.*

The host affiliate of the A.R.R.L., the Milwaukee Radio Amateurs' Club, Inc., was founded in January, 1917, by Loy Schell Hillegas-Baird and other local radio amateurs, for the purpose of banding themselves together into a non-commercial organization which could champion their cause and provide means whereby their knowledge of radiotelegraphy, radiotelephony and allied subjects could be collectively increased.

The M.R.A.C. became affiliated with the League in December, 1919, and now rightfully prides itself as being the oldest member club in continuous operation.

The radio amateurs of Milwaukee County welcome you to the first National A.R.R.L. Convention in ten years.



JOHN DOYLE, W9GPI  
General Convention Chairman

### THE CONVENTION COMMITTEE

... wishing to express its appreciation to all those who have cooperated in the preparation and conduction of this convention. Without such willing assistance, the tremendous amount of detail never could have been accomplished.

Following are the 28 hams who have worked for more than a year heading the committees that have been striving to make this gathering a success:

### COMMITTEE CHAIRMEN

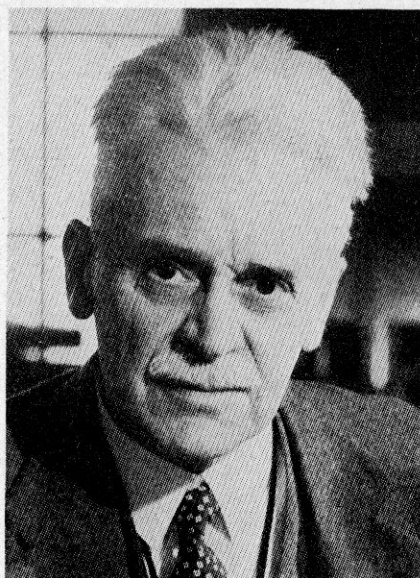
Convention Chairman—John Doyle, W9GPI.  
Vice Chairman and Program Co-ordinator—Fred Catel, W9DTK.  
Central Division Director—Clyde Richelieu, W9ARE.  
Secretary—Les Reinmund, W9PTE.  
Audit—Louis Wollaeger, W9ANA; George Toppe, W9QFL.  
Finance—Wes Correll, W9FY.  
Housing—Fred Morton, W9AMB.  
Registration—Joe Collins, W9PYM.  
IRE-BCE—Joe Kircher, W9NRX.  
Publicity—Sidney Rose, W9VKC.  
Decorations—Cy Wysocki, W9DOS.  
Exhibit Manager—George Bowen, W9DWI.  
A.R.R.L. Booth—H. Wilson, W9NAV.  
M.R.A.C. Booth—H. H. Devendorf.  
Prizes—Travis Baird, W9VQD.  
Ladies' Activities—Mrs. George Toppe, W9AYX.  
Entertainment—Tom Gettelman, W9IZO.  
Wouff Hong—Charlie Meyer, W9GVL.  
Program—Emil Felber, W9RH.  
Printing—John Scarvaci, W9GIL.  
VHF—Frank Maiorana, W9TPT.  
Technical Talks and Speakers—George Pfister, W9IZQ.  
Hidden Transmitter Hunt—Clarence Burke, W9KEU.  
Historical—Clarence Crapo, W9VD.  
C.A.R.C.C.—Art Kraatz, W9HPX.  
Chicagoland Mobile Club—Harry Harrison, W9LLX.

## The American Radio Relay League

Fathered by the amateur spirit of Hiram Percy Maxim and the need of radio amateurs to bond themselves together for the promotion of common interests, the A.R.R.L. was born in May, 1914. Mr. Maxim and C. D. Tuska, another Hartford amateur, wrote letters to each of the amateurs listed in the government call book, announcing the formation of the organization, outlining its objectives and soliciting membership. The response was enthusiastic. In early summer of that year, the first publication of the League appeared, a call book listing the names, addresses, calls and data on equipment of 300 League members. By March, 1915, a second call book listing about 600 members had made its appearance. In December, the first issue of *QST* was published, at private expense of Maxim and Tuska but as the official journal of A.R.R.L., to acquaint members with the affairs of the growing institution.

Then in 1917, when A.R.R.L. membership had mounted to almost 4,000 came World War I, with its attendant ban on the operation of amateur apparatus. The League recruited 500 of its members for immediate communications duty with the armed forces, closed its desk, hung an "Out" sign on its doorknob and went to war. Before it was over, 3,000 additional A.R.R.L. members had followed those first five hundred.

Eleven days after the Armistice, the old Board of Directors met in New York to devise ways and means of resurrecting the League and, with it, amateur radio. Maxim was authorized to attend a Washington conference to fight for the restoration of amateur privileges. It was decided to reorgan-



HIRAM PERCY MAXIM

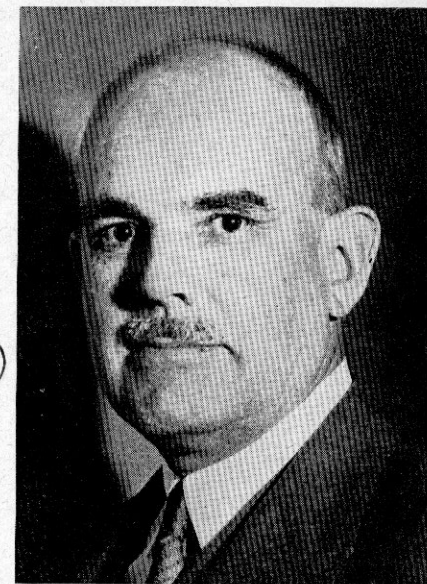
ize the League, resume the publication of *QST* and gird for the battle of getting the ban on amateur radio lifted. The fly in the ointment was that the League had only \$33 in its treasury; so the amateurs present at that first meeting dug into their own pockets to finance a two-page circular to let old members know of the reorganization plans. In June, the first postwar issue of *QST* was printed with money advanced by the printer. It asked members to buy bonds in order to raise funds to continue the League. With no tangible assets, A.R.R.L. could offer no security, could ask only for a loan secured on faith in A.R.R.L. and amateur radio. League members came through with flying colors; \$7,500 was promptly raised. After many months of Washington

activity, Mr. Maxim's famous "A Plea for Amateur Wireless" bore fruit. The ban was off! The League was again on its way!

The years following the lifting of the ban in October, 1919, saw many advances and changes: records were made and broken; the now-familiar emblem of A.R.R.L. was adopted; Canada was included in the operating territory of the League; the first A.R.R.L. National Convention was held in Chicago in the Fall of 1921; spark was discarded for c.w.; Paul Godley was sent to Europe to receive the first American amateur signals heard there; two-way transatlantics became a reality in 1923; amateur radio was first internationally recognized in the 1927 Washington Conference; amateur communications aided many expeditions; unheard-of DX was worked; the Madrid Conference of 1932 and the Cairo Conference of 1938 were weathered, principally because of A.R.R.L. efforts; and—then came World War II.

Once again, amateur radio stations were closed down while their owners, 65,000 strong, went into the armed services or lent their skills to designing and producing war equipment. This time, the League was powerful and well known; it did not close down, but put all of its forces toward successful prosecution of the war.

At its end, the League paved the way for resumption of amateur radio privileges as rapidly as the military

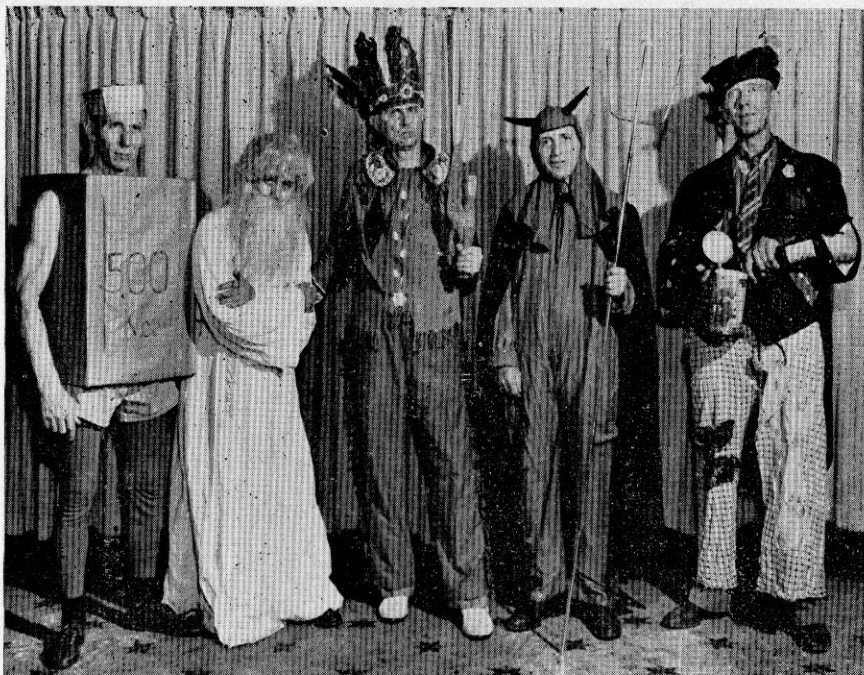


GEORGE BAILEY, W2KH,  
President, A.R.R.L.

could relinquish our frequencies. Amateur radio was again ably represented by A.R.R.L. at the Atlantic City Conference and came through, as always.

These accomplishments of the League, and many more for lack of space not here chronicled, were made possible by the solidarity of its membership—amateurs with a common aim and determined purpose standing shoulder-to-shoulder against those who opposed the progress of amateur radio. With the traditions of amateur radio and the memory of Hiram Percy Maxim in our hearts, may we ever thus move on.





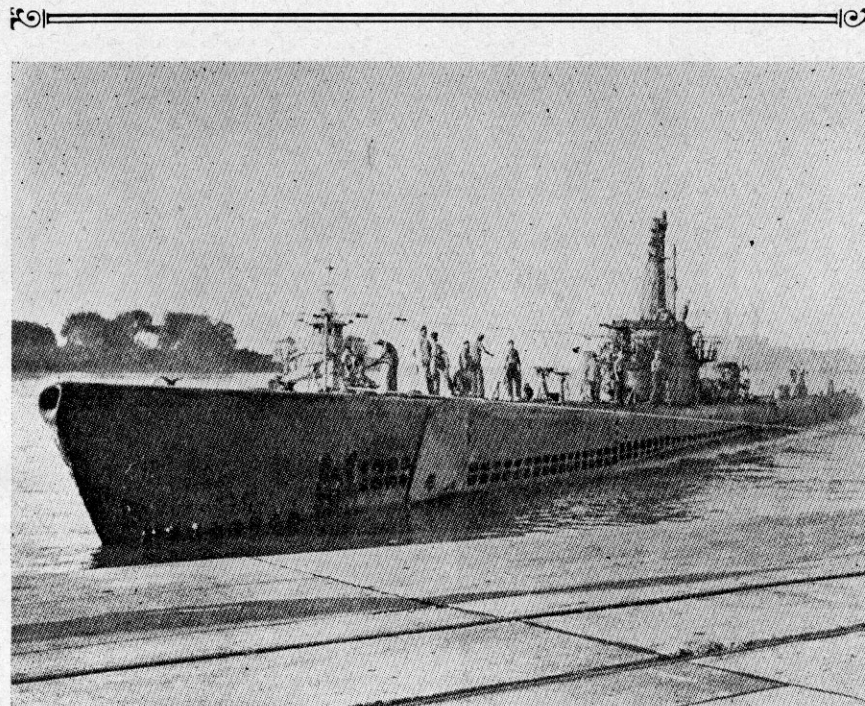
*The famous Milwaukee Radio Amateurs' Club Wouff Hong team will offer the official rites of the Old Man in the Auditorium's Plankinton ball immediately following the main arena entertainment Sunday night. Under the direction of QRM Charlie Meyer (right), others in the picture are Quenton Peters, QRN; H. H. Devendorf, Spirit of Amateur Radio; Ellis Saxton, Old Man, and Milton Peters, Crystal.*

## Program Notes

Jean Jacques Brand will offer "Coupling to That Antenna" in Plankinton Hall at 10:00 to 11:00 A.M. Sunday. Long a favorite speaker before amateur groups in the middlewest, Brand was born in Switzerland and has been associated with development of radio and electronics for 20 years. During the war Brand was a consultant to the Navy on radar, specializing in transmission lines, and he is presently engaged in independent research.

\* \* \*

"Modulation Control Circuits" will be the theme of E. W. Pappenfus, WoSYF, in Plankinton Hall Sunday during the hour period from 11:15 to 12:15 A.M. Pappenfus has been a ham since 1935, and is now engaged in the development of frequency shift radio teletype circuits for Collins Radio at Cedar Rapids, Iowa.



## USS TAUTOG

The Famous submarine USS Tautog will be open for inspection by the guests and delegates to the convention Monday afternoon. Based at the Maine Terminal dock on the Milwaukee River, the submarine is under the control and direction of the Milwaukee Brigade of the United States Naval Reserve.

The exploits of the submarine during her 13 wartime patrols in enemy waters in the Pacific form a brilliant chapter in the history of our Navy in World War II. During her eventful career she sunk 31 Japanese ships and damaged 13 others for a total of 189,707 tons of shipping damaged or sunk.

After being inactivated, Tautog was selected as one of the submarines to be brought up the Mississippi river to be used in Naval Reserve training in the Ninth Naval District. A final selection designated her as the Milwaukee submarine.

For her outstanding combat record, Tautog is the proud possessor of the Navy Unit Commendation "for outstanding heroism in action against Japanese combat and Merchant shipping in enemy-controlled waters of the Pacific."

Arrangements for tour of the Tautog were made by Cdr. Fred Catel, W9DTK, an old time Milwaukee ham, naval veteran and program chairman of the present convention.

# OFFICIAL PROGRAM

SATURDAY, SEPTEMBER 4, 1948

Main Foyer, Fifth Street Entrance, Milwaukee Auditorium.

0900

Registration Opens.

Advance Registration for Royal Order of Wouff Hong Initiation.

Mechanics Hall Exhibits Open.

0900-Noon

FCC Amateur License Examinations.

## MAIN HALL AUDITORIUM

1400-1600

Addresses of Welcome by:

Jack Doyle, W9GPI, General Convention Chairman.

George Bowen, W9DWI, President, MRAC.

Central Division Director, Clyde Richelieu, W9ARE.

Mayor Frank Zeidler, Mayor of Milwaukee, Introduced by

Alderman George Ruger, W9VWG.

Response by: George Bailey, W2KH, President, ARRL.

Program Arrangements:

Fred Catel, W9DTK, Program Co-Ordinator.

# PROGRAM (Continued)

Addresses by:

Commissioner George Sterling, W3DF.

Chairman Federal Communications Commission.

Rear Admiral Earl Stone U.S.N.,  
Chief of Naval Communications.

Major-General Spencer Akin U.S.A.,  
Chief Signal Officer U.S. Army.

Major-General Harold S. McClelland, Cmdg. Gen. AACs.

## MARKET HALL

1800-2000

Black Forest Evening.  
Buffet Supper and Entertainment.

2000-2300

VHF Hamfest Meeting, Plankinton Hall,  
Conducted by: Ed Tilton W1HDQ, VHF Editor QST.

Talk: General Technique At 220MC by: Calvin Hadlock,  
W1CTW.

## MAIN HALL

2030-2230

Address of Welcome by Governor Oscar Rennebohm, Governor  
of Wisconsin, Introduced by Jack Doyle, W9GPI.  
"WMAW on the Air."

## PROGRAM (Continued)

SUNDAY, SEPTEMBER 5, 1948

0900

Registration Opens, Main foyer.  
Registration for Royal Order of Wouff Hong Initiation.

0900-1000

Breakfast Meetings:  
Navy—Honor of Admiral Stone, Schroeder Hotel.  
Emergency Co-ordinators, Plankinton Hotel.  
DX Men, Wisconsin Hotel.  
VHF Men, Pfister Hotel.  
Doctors, Md. and DDS., Medford Hotel.  
Broadcast Engineers, Tower Hotel.

0930

Mechanics Hall Exhibits Open.  
VHF Hidden Transmitter Hunt — Conducted by Clarence  
Burke, W9KEU.  
2 Meters at 0930  
10 Meters at 0940  
6 Meters at 0950  
Assembly on Fifth Street.

## PROGRAM (Continued)

1000-1100

Technical Talk, Plankinton Hall,  
"Coupling That Antenna," by Jean Jacques Brand.  
VHF Forum, Juneau Hall,  
VHF Exciters, Converters, and Microwave Transmitters.  
By: Ed Tilton, W1HDQ, VHF Editor, QST.

1115-1215

Technical Talk, Plankinton Hall,  
"Modulation Control Circuits," by Ernie Pappenfus,  
WoSYF of Collins Radio Co.  
VHF Forum, Juneau Hall,  
Microwave Demonstration: "Fun With Microwaves".  
G. H. Floyd, W2RYT, of the General Electric Co.  
"DX" Get-Together, Kilbourn Hall,  
"How's DX," Conducted by Rod Newkirk,  
W9BRD/1, QST DX Editor.

NOON RECESS

1330

Outdoor Judging of the Best Mobile Installation at the Con-  
vention, Fifth Street Side of Auditorium.  
Conducted by Louis Wollaeger, W9ANA.

## PROGRAM (Continued)

SUNDAY, SEPTEMBER 5, 1948

1400-1600

Party, Ladies Only, Plankinton Hall,  
"Feminine View Point," Interviewer: "Carla."  
Mrs. George Toppe, W9AYX, Chairman.

1400-1730

### MAIN ARENA AUDITORIUM

"The American Radio Relay League and What It Means to You."  
Introduction by Clyde Richelieu, W9ARE, Central Division  
Director, of George Bailey, W2KH, President ARRL.

"The ARRL—Your Organization," by K. B. Warner, W1EH,  
Managing Secretary, ARRL.

"ARRL Operating Activities and Field Organization," F. E.  
Handy, W1BDI, Communications Manager, ARRL.

1630

RECESS.

1645-1730

Demonstration of Single Sideband, Suppressed Carrier Operation,  
by: Byron Goodman, W1DX, Assistant Technical  
Editor, QST.

Recess for Dinner.

## PROGRAM (Continued)

2000-2200

### MAIN ARENA AUDITORIUM

Entertainment:

#### KICKEMHI REVIEW

By Dakota Division Amateurs, under the direction of:

Honey and Joe Sentyrz, WoYLZ.

Violin Concerto, Excerpts from Beethoven's Fifth Symphony, bf: Chas. W. Boegel, Jr., WoCVU of Cedar Rapids, Iowa; Leo Meyerson, WoGFQ of Council Bluffs, Iowa, Accompanist. This very famous soloist has appeared with some of the leading symphony orchestras in the middle west.

Master of Ceremonies, C. C. Richelieu, W9ARE.

2200

Initiation:

Royal Order of the Wouff Hong Initiation; Conducted by:  
The Famous Milwaukee Radio Amateurs' Club Team,  
directed by Chas. Meyer, W9GVL.

## PROGRAM (Continued)

MONDAY, SEPTEMBER 6, 1948

0930

Mechanics Hall Exhibits Open.

0930-1045

Technical Talk, Plankinton Hall,

"Single Sideband for the Amateur," by:

Donald E. Norgaard, W2KUJ of the General Electric Co.

VHF Forum, Juneau Hall,

"Past and Future of the Very Highs" By: Vince Dawson,  
WoZJB, VHF Editor, "CQ."

1100-1215

Technical Talk, Plankinton Hall, "Communications Receiver Design Problems," by Leonard Mayberry, W9EII, of Hallcrafters.

VHF Forum, Juneau Hall, "Wrist Watch Transmitters". Talk by: Al Gross, W8PAL Citizens Radio Corp.

RECESS.

1400-1600

Inspection trip to Submarine Tautog, North end of the Broadway Bridge.

Inspection trip to WTMJ-TV, Radio City.

Meeting, Juneau Hall, Chicagoland Mobile Radio Club,

Conducted by: Harry Harrison, W9LLX.

1600

Official close of Convention.

# HAMS!

*Your Convention Entertainment Host*  
RADIO STATION WMAW, MILWAUKEE

• ABC Network

• 5000 Watts of  
Better Listening

• Day and Night

• Dial 1250 kc

*Invites You to Attend  
the Two-Hour*

## **WMAW-ABC** Affiliation Celebration

*In the*

MILWAUKEE AUDITORIUM—MAIN HALL

Saturday Evening, September 4, 1948  
at 8:30 P.M.

*Music*

*Stars*

*Comedy*

★ ABC Star  
Tommy Bartlett

★ Milwaukee's Own  
Heinie and His Band

★ Ralph Hermann Concert  
Orchestra and Chorus

*and a Host of Other Radio Notables and WMAW Funsters*

Program Broadcast Over WMAW, 1250 on the Dial, 9:00 to 10:00 P.M.

**See MRAC Booth for FREE Tickets**

Following several months of partial affiliation with the American Broadcasting Company, WMAW, on August 16, 1948, became a full-fledged ABC network station, carrying all ABC programs. This event honors that association. Enjoy the program . . . and enjoy your radio more by keeping your dial set at 1250 . . . WMAW and ABC.

Radio Station WMAW, owned and operated by the Midwest Broadcasting Company, Milwaukee, is located in the Towne Hotel, 723 N. Third St. Board of Directors: Clifford C. Randall, president; R. C. Borchert, vice-president and treasurer; Wilkie Zimmer, secretary; Ray Host, assistant secretary and treasurer; John L. Fleissner, and Jack Bundy, general manager.

*Compliments*

## HYTRON RADIO & ELECTRONICS CORP.

SALEM, MASS.

*Specialists in Ham Tubes since 1938*

### *Program Notes*

Radio Station WMAW, Milwaukee's newest and a recent addition to the ABC Network, will present a two hour program for the convention and other Milwaukeeans Saturday night in the main Auditorium Arena. This variety presentation was arranged with the cooperation of Jack Bundy, WMAW station manager, a longtime favorite of mid-west radio listeners.

\* \* \*

The special program for the lady visitors to the convention is under the direction of Mrs. George Toppe, W9AYX, a ten-meter regular from Milwaukee. "Jackie" has obtained the services of "Carla", a Milwaukee Radio personality to present the "Feminine View Point" in Plankinton Hall at 2:00 to 4:00 P.M. Sunday.

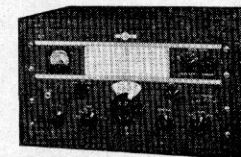
*Greetings From . . .*

## MARSH RADIO SUPPLY COMPANY

526 W. State Street  
Milwaukee 3, Wis.



32V-1, table model band-switching transmitter, 150 watts input.



Type 75A-1 double conversion receiver, accurate to within 2 kc on ten meters.

### The Best Hamshacks Use Collins

Collins equipment is **engineered for amateurs**. Every feature shows the careful consideration, the painstaking design, and the exhaustive tests that have contributed to its outstanding performance. Here are a few of the reasons why wise hams are choosing Collins:

1. Dials calibrated directly in frequency.
2. Flexibility of variable frequency control.
3. Very high accuracy and stability.
4. The Band-Lighted Dials of the 75A-1, 30K-1, and 32V-1 illuminate **only the band in use**.
5. Double conversion, permeability tuned circuit in the 75A-1 receiver.
6. Chirpless keying in the transmitters.
7. Long, reliable operation through use of heavy duty, conservatively operated components.

Plan now to get the most out of amateur radio. Use Collins equipment and you'll enjoy every minute. Write for illustrated bulletins describing these and other Collins products for ham radio.

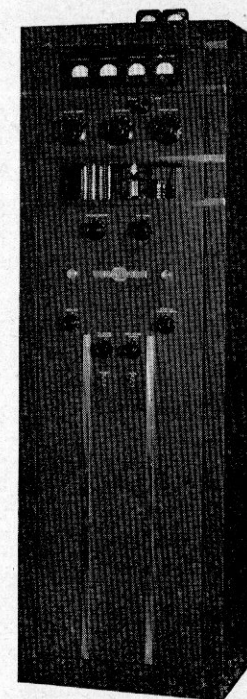


## COLLINS RADIO COMPANY

Cedar Rapids, Iowa

11 West 42nd Street  
New York 18, N. Y.

458 South Spring Street  
Los Angeles 13, Calif.

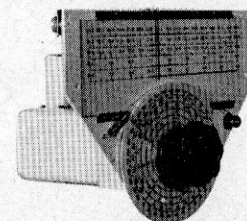


Type 30K-1, 500 watt transmitter with speech clipper for more effective modulation.



Type 310B-3, bandswitching exciter-transmitter, with 40 watts input and antenna network.

Type 70E-8A, permeability tuned oscillator, 1600-2000 kc, direct calibration.

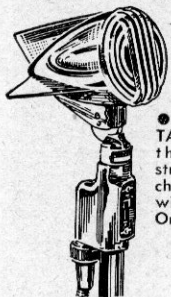




## Amateurs' Favorites in 1948

● VELVET VOICE CRYSTAL, DYNAMIC OR CERAMIC MICROPHONE—sparkling beauties in gold-finished case and handle, with dark brown, detachable base for convertibility to desk stand, floor stand, hand use.

● D-104 CRYSTAL MICROPHONE—first practical crystal microphone developed with few changes still the top favorite of amateurs.



● CONNEAUT CRYSTAL MICROPHONE—the ultimate in streamlining, bright chrome finish shown with Type "S" Off-On Switch.

AS at the time of the last A.R.R.L. Convention, ten years ago, most Ham rigs still are equipped with Astatic Microphones. The Astatic Corporation is especially proud of the place its products hold among amateurs and, herewith, reaffirms the pledge to spare no effort, humanly or technically possible, to continue to warrant your confidence and loyalty.



Astatic Crystal Devices Manufactured by Brush Development Company

### Exhibitors and Advertisers

... have contributed in a large measure to the success of the National A.R.R.L. Convention. In return, the Committee urges that you visit the display booths and read the advertisements carefully. These business houses are ready to serve you at any time. We suggest that when contemplating the purchase of new equipment, you give them first consideration.

### Special Groups

Various special groups have cooperated closely with the convention committees in making the conclave a success. Army and Navy reserve organizations, the Chicago Area Radio Club Council and its affiliates, the Chicagoland Mobile Club, the Hamfesters, and a host of others who are attending en masse are cordially invited to take it upon themselves to organize their own Sunday Morning breakfast gatherings at the hotel coffee shops that best suit their respective convenience.

### Attendance Prizes

A novel method of distribution of the convention prizes—both advance and regular registrations—will be detailed by the committee handling the details at the prize booth.

## First for the Amateur



# Bliley

## CRYSTALS

BLILEY ELECTRIC CO.

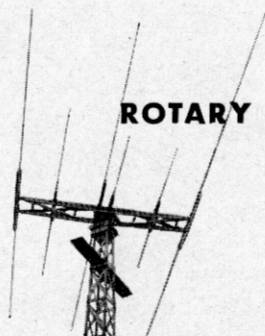
UNION STATION BUILDING

• ERIE, PENNSYLVANIA

# See AMPHENOL

**TWIN-LEAD  
FOLDED DIPOLE**

**AMATEUR**



**ROTARY**

**NEW 300 OHM**



**IN Booth 91**

**ANTENNA**

Available for bands from 3.5 mc to 28.0. Heavy construction, extra strong, perfect matching, has proved ideal for transmitting and receiving. Molded-in T is a strain-relief protecting against wind and ice. It performs well over entire amateur band. Instructions and helpful information with each kit.

**BEAM ANTENNA**

The ultimate in DX attained with this Signal Squirrel. It has unlimited rotation, either direction, Inductostub matched coupling, two band operation, Deluxe rotator, positive position lock, high forward directivity, rigid low-loss elements; it is easily tuned, durable and efficient; it is easily installed and operated. It's the finest on market.

**TRANSMITTING TWIN-LEAD  
14-076**

The last word in Twin-lead is this new-tubular transmission line. Two conductors carried in opposite walls of polyethylene tube assure low loss; it can be wet or coated with ice or snow with no effect on impedance. It presents little wind resistance and does not flutter; it is strong, light and efficient.

*—and hundreds of other items for Radio Amateurs*

*Booth 91  
—or write*

**AMERICAN PHENOLIC CORP.**

1830 SOUTH 54th AVENUE  
CHICAGO 50, ILLINOIS

Follow the Leaders to

**Eimac**  
TUBES  
The Power for R-F

# Hi OM



**The Eimac Gang**

|       |                   |
|-------|-------------------|
| W6UF  | William Eitel     |
| W6CHE | Jack McCullough   |
| W6DUW | George Wunderlich |
| W6RRR | Radford Leonard   |
| W6CEO | Gordon Howes      |
| W6HB  | O. H. Brown       |
| W6VQD | Winfield Wagener  |
| W6BET | Byron Ballou      |
| W6AY  | James Brown       |
| W6EHW | Hubert Eaves      |
| W6OMC | Clayton Murdock   |
| W6WSL | John McCullough   |
| W6SC  | Thomas Hall       |
| W6MUC | Alden Clark       |
| W6DZZ | Edward Hoetzel    |
| W6IUZ | Earl Sanderson    |
| W6WN  | Art Arrigoni      |
| W6BAX | O. P. Taylor      |
| W6DVB | Willard Tallmon   |
| W6OS  | Elliott Sigourney |
| W6ZGV | John Koski        |
| W6WFF | Frank Middleton   |
| W6ZLB | Bud Stuart        |
| W6RBM | Jim Fakema        |
| W6CEM | Leigh Norton      |
| W6DJI | John Wendt        |
| W6BMU | Charles Dickenson |
| W6ZYH | Reg Perkins       |
| W6FXT | Ralph Stubbe      |
| W6KFQ | Jack Rothman      |

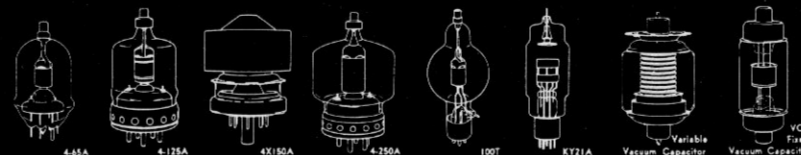
HI OM... from the Eimac gang and a salute from us to you for doing a top job in the top avocation. Stop and think a minute... do you realize the sum of your efforts has been a mighty contribution to electronic progress? It's something to be proud of.

And we're proud, too, proud to have taken a dominant part in your development. Some of our gang have been on the air for over 30 years and there are some of us who have just gotten our tickets, but all in all there are 30 hams who wear the Eimac badge. Our QSL cards hang in shacks in over 200 countries.

We at Eimac are our own severest critics because in our own rigs we use the tubes we make. We know your problems because they are also ours. When working on a new development for a high power TV or radar tube, or a miniature diode, the thought is always in the back of our minds... will this improve my rig (and yours)?

Look to and expect the best in vacuum tube development from Eimac... our engineers, technicians, and production workers work in your behalf.

**Eitel-McCullough, Inc.**  
203 San Mateo Ave., San Bruno, California



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## • NOTES •

## *Program Notes*

From 11:00 A.M. to 12:15 P.M. Monday in Plankinton Hall, Leonard Mayberry, W9EII, will speak on the general subject of receivers. Mayberry is one of the senior engineers of the Hallicrafters Co., Chicago, and has long been recognized as an authority on his subject.

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Harry Harrison, W9LLX, of Motorola, Inc., Chicago, is president of the Chicago-land Mobile Radio Club. This organization will hold a meeting at the convention with Harrison presiding from 2:00 to 4:00 P.M. Monday. A large attendance in Juneau Hall is expected at this gathering.

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The speaker in Plankinton Hall Monday morning from 9:30 A.M. to 10:45 A.M. will be Donald E. Norgaard, W2KUJ, of the General Electric Co., Research Laboratory, Schenectady, N. Y. Norgaard will discuss "Single Side Band for the Amateur." He has been engaged in research work for G.E. since 1936, and in addition to being an avid ham, does some private flying.

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## • NOTES •

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